CHILTON'S

December 20, 1985

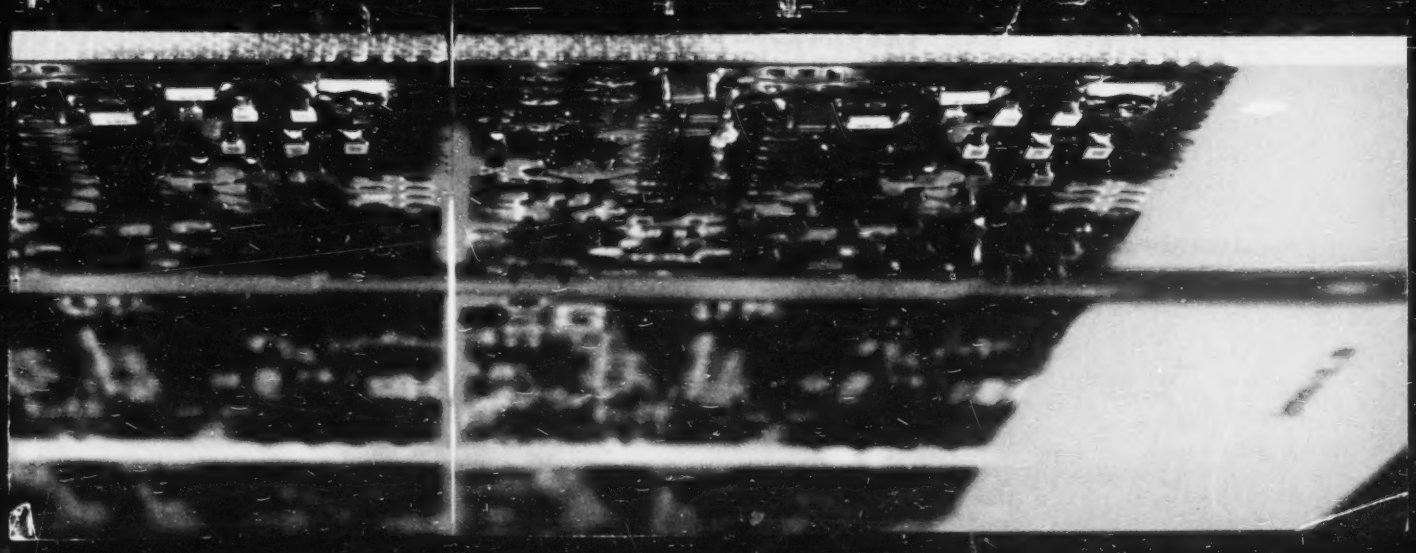
IRON AGE

MANUFACTURING MANAGEMENT

NEW AND OLD TECHNOLOGIES SOLVE CUTTING AND MACHINING PROBLEMS

WHY PLANT SPENDING TRENDS HAVE GONE HAYWIRE

FACTORY COMPUTERS THAT NEVER FAIL



DECEMBER 20, 1985 VOL. 228, NO. 24

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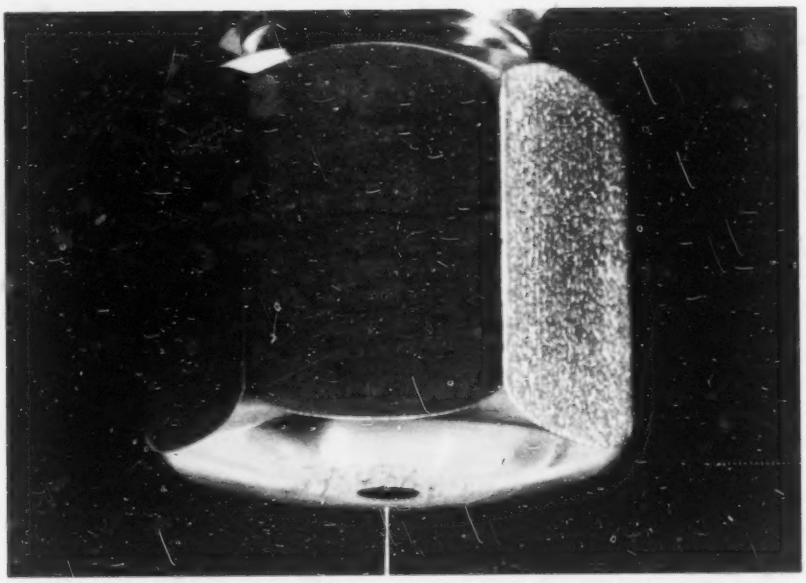

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ONE OF THE ABC PUBLISHING COMPANIES

PRICE & PRODUCTION DATA

(Effective November 25,1985)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	166	163	181	178
Pittsburgh	204	178	156	161
Youngstown	102	100	94	60
Lake Erie	122	124	144	115
Detroit	145	157	146	144
Chicago	463	478	476	418
Cincinnati	82	80	82	90
St. Louis	77	80	73	67
Southern	208	202	205	168
Western	81	83	69	62
U.S. Production	1,650	1,645	1,626	1,463

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.5-86.9***
Mesabi, regular-unscreened	gross-ton $32.53
Mesabi, non-bessemer	gross-ton $30.03-31.53

*58.0¢—Mineral Services, Inc., as of 8-13-85. **59.4¢—Pickands Mather, 8-1-85 delivered hold of vessel, upper Lake ports. ***72.5¢—U.S. Steel as of 8-16-85. 86.9¢—Oglebay Norton 3-25-82, Hanna Mining and Cleveland Cliffs, 2-26-82.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective November 25,1985)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1985	To Date 1984
Net tons, in thousands	1,650	1,645	78,839	82,941
Capability Utilization Rate	64.9	64.7	65.8	68.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 7/1/84)	27.582	27.582	27.582	27.582
Pig Iron** (Net ton = 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton = 2240 lbs.)	$ 68.83	$ 68.83	$ 70.17	$ 78.50
No. 2 bundles	$ 50.83	$ 50.83	$ 51.50	$ 51.17

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 69.50	$ 69.50	$ 73.50	$ 79.50
No. 1 steel, Philadelphia	67.50	67.50	67.50	75.50
No. 1 steel, Chicago	69.50	69.50	69.50	80.50
No. 1 bundles, Detroit	56.50	56.50	63.50	64.50
Low Phos., Youngstown	66.50	66.50	67.50	72.50
No. 1 mach'y cast., Pgh	68.50	68.50	71.50	66.50
No. 1 mach'y cast., Phila	91.50	91.50	91.50	98.50
No. 1 mach'y cast., Chi	97.50	97.50	97.50	110.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strip.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective November 25,1985) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	43.43	42.62	11/25/85
Copper (C)	65.00-66.00	64.50-66.00	11/22/85
Lead	18.75-19.50	18.75-19.00	11/8/85
Magnesium Ingot	148.00	143.00	5/25/84
Nickel (LME)	181.59	184.17	11/25/85
Zinc	35.00	38.00	11/6/85

ALUMINUM: Avg. for last week & previous week. COPPER (C): cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$235.00
Beryllium-copper, per lb. cont. Be	$144.00
Beryllium 97% powder 200	$197.00
Cadmium, ton lots	$1.25-1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.8%	$4.62
Cobalt, 99%, cathode	$11.70
Gold per troy oz.	$330.45
Indium, dollars per troy oz.	$2.50
Iridium, dollars per troy oz.	$430.00
Magnesium sticks, 10,000 lbs.	$2.02
Mercury, per 76-lb. f.o.b. N.Y.	$320.00-330.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.15-3.30
Nickel electro (PDCR)	$3.29
Palladium, per troy oz.	$100.00
Platinum, per troy oz.	$335.00
Rhodium, per troy oz.	$1,085.00
Silver ingots, per troy oz.	$6.28
Titanium sponge, melt grade	$3.50-3.75
Tungsten powder, yld red.	$9.00-9.50
Vanadium	$6.00
Zirconium sponge	$12.00-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

Nov. 18—TRADING Nov. 21—
Nov. 19—SUSPENDED Nov. 22—
Nov. 20—

Scrap Prices
Brass Mill Scrap

(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	60	50½
Yellow brass	52	43¼
Red brass	55¼	46
Comm. bronze	57⅛	46¼
Mang. bronze	44¼	43¼
Free cutting rod ends	47	46

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	55
No. 2 copper wire	47
Light copper	38

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	51
No. 2 copper wire	43
Light copper	34
No. 1 composition	46
No. 1 comp. turnings	44
Hvy. yellow brass solids	33
Hvy. yellow brass turnings	30
Radiators	35

Aluminum		
New mixed clips	31	— 32
Old sheet	29	— 30
Old cast	29	— 30
Clean dry borings	30	— 31

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	24	— 26
Mixed I.C. clips	21	— 22
Old sheets and cast	20	— 21
Borings and turnings	16	— 18
Duraluminum clippings	24	— 25

Copper and Brass

No. 1 copper wire	45	— 46
No. 2 copper wire	37	— 39
Light copper	32	— 33
Radiators	30	— 31
No. 1 composition	39	— 40
No. 1 composition turnings	36	— 37
Cocks and faucets	28	— 29
Clean heavy yellow brass	27	— 28
Brass Pipe	28	— 29
New soft brass clippings	39	— 40

Lead

Heavy soft lead	6	— 8
Whole batteries	1	— 3
Type metal	16	— 17
Electrotype	13	— 15

Nickel

Nickel solids	115	—125
Nickel rod ends	115	—125
Nickel sheets, clips	115	—125
Nickel turnings	25	— 35

Zinc

New zinc clippings	17	— 18
Old diecast zinc	13	— 14

EFFECTIVE NOVEMBER 25,1985

Effective November 25,1985. Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	82.00 to	83.00
No. 1 factory bundles (auto)	87.00 to	88.00
No. 2 bundles	50.00 to	51.00
No. 1 busheling	81.00 to	82.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	40.00 to	41.00
Cast iron borings	38.00 to	39.00
Low phos. punchings plate	90.00 to	91.00
Heavy turnings	63.00 to	64.00
No. 1 RR hvy. melting	78.00 to	79.00
Rails, 2 ft. and under	97.00 to	98.00
Scrap rails, random lgth.	72.00 to	73.00
RR specialties	93.00 to	94.00
No. 1 machinery cast	68.00 to	69.00
Cupola cast	61.00 to	62.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	515.00 to	525.00
18-8 turnings	415.00 to	425.00

Chicago

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 dealer bundles	85.00 to	86.00
No. 1 factory bundles (auto)	85.00 to	86.00
No. 2 dealer bundles	56.00 to	57.00
No. 1 busheling	79.00 to	80.00
Shredder scrap	79.00 to	80.00
Machine shop turnings	38.00 to	39.00
Mixed borings and turnings	40.00 to	41.00
Shoveling turnings	42.00 to	43.00
Cast iron borings	42.00 to	43.00
Low phos. forge crop	93.00 to	94.00
Low phos. punchings plate 1/4 in. and heavier	109.00 to	110.00
Low phos. 2 ft. and under	104.00 to	105.00
No. 1 RR hvy. melting	73.00 to	74.00
Scrap rails random lgth.	74.00 to	75.00
Reroller rails	96.00 to	97.00
Rails, 2 ft. and under	97.00 to	98.00
RR couplers and knuckles	82.00 to	83.00
RR car axles	98.00 to	99.00
No. 1 machinery cast	97.00 to	98.00
Cupola cast	85.00 to	86.00
Stove plate	87.00 to	88.00
Steel car wheels	82.00 to	83.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	415.00 to	425.00
430 bundles and solids	130.00 to	135.00
430 turnings	95.00 to	100.00

Philadelphia

No. 1 hvy. melting	$ 66.00 to	$ 69.00
No. 2 hvy. melting	57.00 to	60.00
No. 1 dealer bundles	80.00 to	83.00
No. 2 dealer bundles	44.00 to	47.00
No. 1 busheling	80.00 to	83.00
Shredder scrap	80.00 to	83.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	73.00 to	76.00
Low phos. 2 ft. punchings	94.00 to	97.00
Electric furnace bundles	82.00 to	85.00
RR specialties	73.00 to	76.00
Rails, 2 ft. and under	98.00 to	101.00
Cupola cast	76.00 to	79.00
Heavy breakable cast	53.00 to	56.00
No. 1 machinery cast	90.00 to	93.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 47.00 to	$ 48.00
No. 2 hvy. melting	46.00 to	47.00
No. 1 dealer bundles	56.00 to	57.00
No. 2 bundles	22.00 to	23.00
No. 1 busheling	55.00 to	56.00
Drop forge flashings	34.00 to	35.00
Machine shop turnings	30.00 to	31.00
Mixed borings and turnings	12.00 to	13.00
Shoveling turnings	30.00 to	31.00
Cast iron borings	16.00 to	17.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	455.00 to	465.00
18-8 turnings	340.00 to	350.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 57.00 to	$ 58.00
No. 2 hvy. melting	50.00 to	51.00
No. 1 dealer bundles	70.00 to	71.00
No. 2 dealer bundles	33.00 to	34.00
Machine shop turnings	20.00 to	21.00
Shoveling turnings	20.00 to	21.00
Low phos. plate	66.00 to	67.00
Electric furnace bundles	58.00 to	59.00
Galvanized bundles	56.00 to	57.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 54.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	71.00 to	72.00
No. 1 factory bundles	52.00 to	53.00
No. 2 bundles	30.00 to	31.00
No. 1 busheling	62.00 to	63.00
Machine shop turnings	22.00 to	23.00
Shoveling turnings	22.00 to	23.00
Cast iron borings	15.00 to	16.00
Cut structural & plates 5 ft. and under	63.00 to	64.00
Cut structural & plates 2 ft. and under	81.00 to	82.00
Low phos. punchings plate	81.00 to	82.00
Foundry steel, 2 ft. & under	47.00 to	48.00
No. 1 RR hvy. melting	53.00 to	54.00
Rails, 2 ft. and under	82.00 to	83.00
Rails, 18 in. and under	84.00 to	85.00
No. 1 machinery cast	73.00 to	74.00
Mixed cast	40.00 to	41.00
Stainless		
18-8 bundles	440.00 to	450.00
18-8 turnings	325.00 to	335.00
430 bundles	100.00 to	110.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 50.00 to	$ 51.00
No. 2 hvy. melting	40.00 to	41.00
No. 1 busheling	65.00 to	66.00
No. 1 dealer bundles	64.00 to	65.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	15.00 to	16.00
Mixed boring and turnings	15.00 to	16.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	23.00 to	24.00
Low phos. plate	73.00 to	74.00
Structural and plate 2 ft. and under	77.00 to	78.00
Rails, 2 ft. and under	79.00 to	80.00
Scrap rails, random lgth.	64.00 to	65.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	59.00 to	60.00

St. Louis

No. 1 hvy. melting	$ 42.00 to	$ 43.00
No. 2 hvy. melting	31.00 to	32.00
Foundry steel, 2 ft.	36.00 to	37.00
No. 1 dealer bundles	42.00 to	43.00
No. 2 bundles	27.00 to	28.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	30.00 to	31.00
No. 1 RR hvy. melting	53.00 to	54.00
Rails, random length	59.00 to	60.00
Rails, 18 in. and under	72.00 to	73.00
RR specialties	70.00 to	71.00
Cupola cast	71.00 to	72.00
Heavy breakable cast	49.00 to	50.00
Stove plate	89.00 to	90.00
Steel car wheels	81.00 to	82.00
Rerolling rails	99.00 to	100.00
Unstripped motor blocks	64.00 to	65.00

Birmingham

No. 1 hvy. melting	$ 70.00 to	$ 71.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	70.00 to	71.00
No. 2 bundles	46.00 to	47.00
No. 1 busheling	70.00 to	71.00
Shredder scrap	84.00 to	85.00
Machine shop turnings	24.00 to	25.00
Shoveling turnings	38.00 to	39.00
Cast iron borings	37.00 to	38.00
Electric furnace bundles	65.00 to	66.00
Elec. furnace, 3 ft. & under	66.00 to	67.00
Structural and plate, 2 ft.	86.00 to	87.00
Structural and plate, 4 ft.	83.00 to	84.00
No. 1 RR hvy. melting	83.00 to	84.00
Scrap rails, random lgth.	69.00 to	70.00
Rails, 2 ft. and under	87.00 to	88.00
Angles and splice bars	83.00 to	84.00
No. 1 cupola cast	84.00 to	85.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 54.00 to	$ 55.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	64.00 to	65.00
No. 2 bundles	34.00 to	35.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	15.00 to	16.00
Low phos. 18 in. and under	79.00 to	80.00
Rails, random length	59.00 to	60.00
Rails, 2 ft. and under	74.00 to	75.00
No. 1 cupola cast	59.00 to	60.00
Heavy breakable cast	24.00 to	25.00
Drop broken cast	71.00 to	72.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 44.00 to	$ 45.00
No. 2 hvy. melting	35.00 to	36.00
No. 2 dealer bundles	20.00 to	24.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	450.00 to	475.00
18-8 turnings	350.00 to	375.00
430 prepared solids	90.00 to	100.00
410 solids	75.00 to	85.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 51.00 to	$ 53.00
No. 2 hvy. melting	41.00 to	43.00
No. 1 dealer bundles	53.00 to	55.00
No. 2 bundles	34.00 to	36.00
No. 1 busheling	59.00 to	61.00
Shredder scrap	61.00 to	63.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	46.00 to	48.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	32.00 to	34.00
No. 1 dealer bundles	29.00 to	31.00
No. 2 dealer bundles	17.00 to	19.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	32.00 to	34.00
No. 1 dealer bundles	29.00 to	31.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	11.00 to	12.00
Shoveling turnings	10.00 to	11.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	70.00 to	72.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	60.00 to	62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 77.00
No. 2 hvy. melting, cut 2 ft. and under	70.00
No. 1 dealer bundles	81.00
No. 2 bundles	53.00
Mixed steel scrap	48.00
Bush. new fact. prep'd	81.00
Bush. new fact. unprp'd	64.00
Machine shop turnings	34.00
Short steel turnings	34.00
Mixed borings and turnings	19.00
Cast scrap	86.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 67.00 to	$ 68.00
No. 2 hvy. melting	54.00 to	55.00
No. 2 bundles	40.00 to	41.00
Machine shop turnings	11.00 to	12.00
Crushed turnings	30.00 to	31.00
Shredder scrap	74.00 to	75.00
Cut structural plate, 2 ft. and under	97.00 to	98.00
Cut structural plate, 5 ft. and under	79.00 to	80.00
Unstripped motor blocks	57.00 to	58.00
Cupola cast	83.00 to	84.00

PRICE PEACE HOLDS IN FACE OF BIG AUTO HIKES

Producer prices in October were on the same flat track they had been on for more than four years.

There was one big exception: Prices of autos and trucks.

Prices of new cars in October rose by 12.1 pct from September. Prices of light trucks (including the popular personal vans), were up 14.5 pct. And prices of heavy trucks were up 6.6 pct.

The surging automotive prices pushed up the U.S. Labor Dept.'s finished goods price index by 0.9 pct from September. This was the steepest monthly rise for finished goods prices since April 1981.

The big October price jump in automotive vehicles is explained by deep discounting of year-end 1985 models and higher prices for 1986 models. October was the month the price changes came home to roost, and be tallied by the price checkers.

A glance at the table here shows clearly that the automotive tag rises were the exception. They stood out like mountains on a prairie.

A point to remember is that the automotive price surge was largely a one-shot proposition. It reflected the jump from a singular low price to a new higher level of prices.

The glance at the table is also reassuring to inflation worry warts. Prices in October slept peacefully while automation markups made all the noise. Seven of the 22 product lines listed on the table showed month-to-month decreases in October. Another four lines showed no price changes.

Further price stability seems to be in the wind. Market demand, as reflected in a third quarter 3.1 pct annual growth rate for the economy, is moderate, and there is still much excess output capacity noted in U.S. industry. At the same time, price-moderating import competition continues to roll on unabated.

Latest Month Covered: October 1985

Products	Index Reading For Month (1967 = 100)	Pct Change From Previous Month	Pct Change From Year-Ago Month
Metal Cutting Machine Tools	395.7	— 0.6	+ 1.5
Metal Forming Machine Tools	433.2	— 0.4	+ 1.4
Agricultural Machinery & Equip.	337.4	0	0
Construction Machinery & Equip.	363.1	+ 0.1	— 1.6
Industrial Process Furnace & Ovens	389.2	+ 1.0	+ 2.9
Industrial Material Handling Equip.	294.2	— 0.3	+ 1.1
Pumps, Compressors & Allied Equip.	358.3	+ 0.3	+ 2.2
Fluid Power Equip. (Dec. 1970 = 100)	264.8	— 0.1	+ 1.2
Mechanical Power Transmission Equip.	340.5	+ 0.2	+ 3.1
Automobiles	234.8	+ 12.1	+ 4.9
Motor Trucks—Light	312.4	+ 14.5	+ 7.6
Motor Trucks—Heavy	337.6	+ 6.6	+ 2.0
Railroad Equipment	364.3	— 0.1	+ 1.5
Fabricated Metal Structural Products	315.5	+ 0.1	+ 0.5
Electric Motors	351.7	0	+ 2.7
Valves & Fittings (Dec. 1982 = 100)	104.8	— 0.3	+ 1.9
Ball & Roller Bearings	355.0	+ 0.4	+ 3.0
Cutting Tools & Accessories	287.2	+ 0.2	+ 1.9
Heating Equipment	261.5	0	+ 2.1
Plumbing Fixtures & Brass Fittings	314.8	+ 0.4	+ 2.8
Metal Containers	357.7	0	+ 0.1
Miscellaneous Metal Products	302.3	— 0.1	+ 0.3

Data based on U.S. Labor Dept.'s Producer Price Index